

REMARKS

The application includes claims 1, 4-6, 9-12, and 15-20 prior to entering this amendment. Claims 1 and 9 have been cancelled and rewritten as claims 21 and 22, respectively.

The examiner rejected claims 1, 9, and 16 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Raphaeli (U.S. Patent Application Publication No. 2004/0202229) in view of Tsubouchi *et al.* (U.S. Patent 6,061,342).

The examiner rejected claims 4, 5, 6, 11, and 12 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Raphaeli in view of Tsubouchi as applied in claims 1, 9, and 16, and further in view of the Admitted prior Art, (fig. 2 and fig. 3).

The examiner rejected claims 10, 15, and 17-20 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Raphaeli in view of Tsubouchi as applied in claims 1, 9, and 16 and further in view of Van Driest (U.S. Patent 6,115,411).

The application remains with claims 4-6, 10-12, and 15-22 after entering this amendment. The applicants do not add new matter and request reconsideration.

Claim Rejections - 35 U.S.C. § 103

Regarding claims 1, 9, and 16, the Examiner acknowledges that Raphaeli does not disclose a slip encoder configured to encode other data values into the encoded data stream by varying time spacing between the spread spectrum codes. However, the Examiner asserts that Tsubouchi discloses a slip encoder configured to encode other data values 3 in the encoded data stream by varying time spacing between the spread spectrum codes s2, wherein the other data values correspond to an amount of clock periods inserted (fig. 5A dummy data) by the slip encode between the generation of adjacent non-overlapping spread spectrum codes (col. 3, lines 17-67 and col. 4, lines 15-65).

The rejection is respectfully traversed. However, claims 1 and 9 have been rewritten as claims 21 and 22, respectively, and 16 have been amended to further clarify the patentable subject matter. For example, claim 21 recites:

where an entire total amount of the time gap from an end of transmission of the entire spread spectrum codes to a beginning transmission of the next subsequently transmitted adjacent spread spectrum code corresponds to one of the other multiple different data values that is not spread spectrum encoded and different durations of the entire total time gap used between

different pairs of the adjacent spread spectrum codes represent different values for the multiple different data values.

Support for claim 21 is clearly described throughout the specification and shown in the figures. For example, FIG. 4 shows different varying amounts of time gap 56 that can be inserted between different adjacent PN codes 50 and 52.

Tsubouchi does not suggest or teach varying amounts of the entire total time gap used between different pairs of adjacent spread spectrum codes proportionally to different non-spread spectrum data values as recited in claim 21.

Tsubouchi discloses dummy data (5) located behind data packets (FIGS. 3A and 5A). However, an entire total amount of the time associated with the dummy data 5 in Tsubouchi never varies by different amounts between different pairs of adjacent spread spectrum codes as recited in claim 21.

Tsubouchi explains at col. 3, starting at line 19 that a circuit 1 shown in FIG. 3A first outputs a “1” signal for a period of 11 bits and then outputs a “0” signal for a period of 5 bits, and then outputs data to be transmitted. A short PN code generator generates a predetermined short PN code after a signal S2 (FIG. 3B).

Any time duration associated with the dummy data or the short PN code in Tsubouchi is the same between every adjacent pair of data packets (see FIGS. 3A and 3F). The dummy data is always 5 bits (col. 3, line 24) and the short PN sequence is always a short predetermined code (col. 3, lines 32). Also, the short PN sequence is a spread spectrum code, and not a non-spread spectrum code as recited in claim 21. Thus, the dummy data and the short PN code in Tsubouchi are not varied between different adjacent spread spectrum codes as recited in claim 21.

Regardless, there are no data values in Tsubouchi associated with the total amount of time gap between adjacent spread spectrum codes as recited in claim 21 and there are no data values in Tsubouchi that vary this total amount of time gap between adjacent spread spectrum codes proportionally to represent different non-spectrum data values as also recited in claim 21. Tsubouchi teaches away from varying the total time gap between different adjacent spread spectrum codes since a same set number of 11 synchronization bits and a second set number of dummy bits 5 are used between adjacent data packets.

Accordingly, claim 21 is patentable under 35 U.S.C. § 103(a) over Raphaeli in view of Tsubouchi.

Claim 22 recites: *different varying durations are used for the time gaps between different pairs of adjacent spread spectrum codes and the different durations for the time gaps correspond to different data values for the additional data that is not spread spectrum encoded.*

Claim 16 recites *using different amounts of a total time delay from the completion of transmission of PN codes until starting transmission of adjacent PN codes for different adjacently transmitted PN codes to represent different values for the second set of data values that are not PN coded.*

Accordingly, claims 22 and 16 are patentable under 35 U.S.C. § 103(a) over Raphaeli in view of Tsubouchi. for at least some of the same reasons as claim 21.

Dependant claims 4-6 depend upon claim 21, claims 10-12 and 15 depend on claim 22, and claims 17-20 depend on claim 16. Accordingly, claims 4-6, 10-12, 15, and 17-20 are all also in condition for allowance.

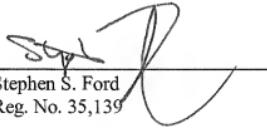
CONCLUSION

For the foregoing reasons, the applicants request reconsideration and allowance of claims 4-6, 10-12 and 15-22. The applicants encourage the examiner to telephone the undersigned if it appears that an interview would be helpful in advancing the case.

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Respectfully submitted,

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